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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,879	06/29/2001	Paul Glatkowski	8125.002.CNUS	4705
69911	7590	12/19/2007	EXAMINER	
JAMES REMENICK			YOON, TAE H	
NOVAK DRUCE & QUIGG, LLP			ART UNIT	PAPER NUMBER
1300 I STREET NW			1796	
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12/19/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/894,879	GLATKOWSKI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Tae H. Yoon	1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 October 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 23-49,52-54 and 76-122 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 23-49,52-54 and 76-122 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The instant invention is direct to a composite comprising nanotubes. For example, an extruded polymeric article having nanotubes therein would meet the invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23-49, 52-54 and 76-122 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The NEW MATTER rejection is maintained for reason of record with following response.

Applicant asserts that the table 1 (114 dB and 119 dB) provides support, but it is direct to a particular composition (PET containing 1.5 wt% of 6:1 elongation product) for particular frequencies (20 KHz and 0.2 GHz). Also, contrary to applicant's assertion, said 114 dB and 119 dB are directed to the **plane wave shielding effectiveness (SE<sub>pw</sub>)**, not to the **magnetic wave shielding effectiveness (SE<sub>m</sub>)**. Claims do not have such limitations, and thus claims contains new matter and are enabling for such composition only. Also, the recited enhancement of at least 10 dB, for example, does

not have support contrary to applicant's assertion since said at least 10 dB must include 10 dB.

Also, the limitation recited claim 42 does not have support at page 13 wherein the recited combined limitation, "carbon nanotubes that are substantially not in contact with each other, other than their longitudinal areas" and "are not aligned or oriented to provide electromagnetic shielding" cannot be found in page 9 and table 1 as well as page 13. Contrary to applicant's assertion, a different context or description is recited in pages 10 and 13.

Applicant trying to pass the burden to the examiner stating that Examiner's Affidavit would be needed in order to maintain the rejection, but applicant has an initial burden to show or disclose that the **plane wave shielding effectiveness ( $SE_{pw}$ )** and the **magnetic wave shielding effectiveness ( $SE_m$ )** are same. However, applicant's own statement, **[P]lane wave shielding and magnetic wave shielding are closely related properties of shielding**, supports the examiner's position since applicant failed to state that the plane wave shielding and magnetic wave shielding are same (applicant states **closely related properties of shielding**). Also, notes that there is no teaching with respect to how they are related each other either. Also, the recited enhancement of at least 10 dB, for example, does not have support contrary to applicant's assertion since said at least 10 dB must include 10 dB and since choosing a particular value must be based on the disclosed values. See *In re Wertheim*, 541 F.2d 257, 265, 191 USPQ 90, 98 (CCPA 1976).

Also, again, the limitation recited claim 42 does not have support in specification (pointed out by applicant) wherein the recited combined limitation, "carbon nanotubes that are substantially not in contact with each other, other than their longitudinal areas" and "other than their longitudinal areas and are not aligned or oriented to provide electromagnetic shielding" cannot be found in locations pointed out by applicant. Contrary to applicant's assertion, a different context or description is recited.

Claims 23-49, 52-54 and 76-103 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the composite of PET and nanotubes having an enhanced electromagnetic shielding, does not reasonably provide enablement for the recited composite. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Rejection is maintained for reason of record with following response.

Page 5 does recite various polymers as pointed out by applicant, but such disclosure would support the original claims without the instant limitation, a particular enhancement value (at least 5 dB for example) of electromagnetic shielding effectiveness.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 23-49, 52-54, 76-103, 104 and 108-122 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smalley et al (US 6,683,783).**

Rejection is maintained for reason of record with following response.

Applicant asserts that the electromagnetic shielding is not an inherent property of carbon nanotubes, but failed to provide any evidence therefor.

Note that any material, especially a tube material with an internal void such as carbon nanotubes, has the electromagnetic shielding property inherently. Applicant also asserts that Smalley et al failed to disclose or suggest that at least aspect ratio, orientation or alignment of carbon nanotubes provides electromagnetic shielding

effectiveness, but Smalley et al teach an aspect ratio of 769:1 (0.6 nm diameter and 50 nm length for example) )at bottom of col. 6. Also, an extruded polymeric article having the nanotubes would have orientation and alignment.

The recited enhancement of the recited dB is an inherent property of the article taught by Smalley et al.

**Claims 23-49, 52-54 and 76-122 are rejected under 35 U.S.C. 103(a) as obvious over Smalley et al (US 6,683,783) and Shibuta et al (US 5,908,585).**

Rejection is maintained for reason of record with above and following response.

The instantly claimed language (comprising) permits the presence of other material such as metal Shibuta et al, even in a major amount. Furthermore, Shibuta et al are cited show that use of carbon nanotubes having an aspect ratio of at least 1000:1 in shielding electromagnetic waves is well known practice in the art (col. 2, lines 1-14), not for orientation and alignment which are taught by Smalley et al contrary to applicant's assertion.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued

examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tae H Yoon  
Primary Examiner  
Art Unit 1796

THY/December 13, 2007